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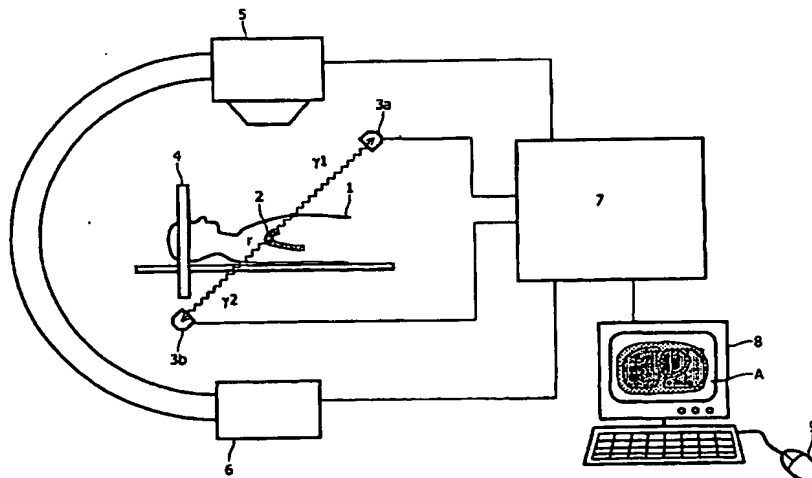
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[Continued on next page]

(54) Title: **DEVICE AND METHOD FOR DETERMINING THE CONCENTRATION OF A TRACER IN BLOOD**



(57) Abstract: The invention relates to device and a method for determining the concentration of a PET tracer in the blood of a patient (1). With the aid of an X-ray CT (5, 6), first of all the spatial position (r) of a volume element (2) that is filled with blood is determined, which for example can be a part of the aorta or of the left ventricle of the heart. Subsequently, a TOF PET unit that comprises two detector elements (3a, 3b) is set in such a way that it establishes the concentration of the tracer in this volume element (2) and thus in the blood. This value can for example be used within the framework of pharmaco-kinetic examinations which are carried out on the patient (1) with the aid of a three-dimensional PET unit (4).